

## **REMARKS**

Claims 22 and 32 have been amended to correct minor clerical errors and not for any reason of patentability. No claims have been added or canceled. Therefore, claims 1-32 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

### **Objections to the Drawings:**

The Examiner has objected to the drawings as failing to comply with 37 CFR 1.84(p)(5) because they included references numbers 300 and 700, which are not mentioned in the specification. Paragraphs [0037] and [0051] of the specification have been amended to overcome this objection.

The Examiner has objected to FIG. 3 arguing that reference numbers 302 and 304 are not labeled and that it is not clear to which channel, i.e. 1-n, each category is referring. However, as described in the specification, FIG. 3 illustrates a memory table storing policing parameter and rollover data. Reference numbers 302 and 304 clearly indicate certain columns of data in the memory table. As to the Examiner's confusion over which channel(s) are referred to by reference numbers 302 and 304, information relating to each channel is stored in a separate row of the memory table illustrated by FIG. 3. Thus, any particular data of the memory table is identified by the channel number corresponding to a row and a column indicated by one of reference numbers 302 and 304. It is very common to use reference numbers to refer to a column of data in a tabular illustration. Adding additional labels or references numbers identifying every cell in the memory table of FIG. 3 would only serve to clutter the figure and make FIG. 3 less understandable.

FIG. 7 has not been amended for similar reasons presented above regarding FIG. 3. Specifically, the Examiner states that reference numbers 702, 704 and 706 are not labeled appropriately and that FIG. 7 is not clear as to which VC number each category is

referring. However, as with FIG. 3, discussed above, FIG. 7 illustrates a table of data organized into rows and columns. Any individual piece of data can be identified by a row and column. Reference numbers 702, 704 and 706 clearly indicate different columns in the table of FIG. 7.

Additionally, the Examiner objects to FIG. 2 for not including a clock signal described, with reference to one embodiment of the present invention, as “not shown” but according to which counter 204 may increment a 32-bit counter. Applicants submit that, contrary to the Examiner’s objection, illustration of the actual clock signal that may, in one embodiment, be used by counter 204 is not essential for a proper understanding of the disclosed invention. A clock signal was listed in the specification as one example of how counter 204 may function. Counters, such as counter 204, are extremely well understood in the art and including a representation of such a clock signal in FIG. 2 may, in fact, cause more confusion since there are many possible ways for such a clock signal to be provided and for counter 204 to function. Since the operation of such counters is well known, illustration of the clock signal is clearly not essential for a proper understanding of the disclosed invention.

#### **Objections to the Specification:**

The specification has been amended to overcome the Examiner’s objections.

#### **Section 102(e) Rejection:**

The Office Action rejected claims 1, 16, 17 and 32 under 35 U.S.C. § 102(e) as being anticipated by Andrew W. Welin (U.S. Publication 2002/0031086) (hereinafter “Welin”). Applicants respectfully traverse this rejection for at least the reasons herein below.

**Regarding claim 1, Welin fails to disclose a memory coupled to a cell processing unit and configured to store one or more policy parameters and rollover**

**data for each of the communication channels, wherein the rollover data comprises an indication of a rollover relationship between the timer value and one of the policing parameters for each of the communication channels.** Instead, Welin teaches a method for sorting a queue of telephony packets by a deadline value for each packet by which that packet must be serviced or lost. The packets are then decoded in the resultant sort order (Welin, Abstract, paragraphs 0015, 0058 and 0080). The Examiner cites several portions of Welin that describe how packets are received, the type of hardware Welin's system can be implemented on, and that describe how Welin determines the deadline value for each packet, taking into account clock counter rollover. However, none of the cited portions discloses a memory configured to store rollover data *for each of the communication channels*.

Moreover, Welin does not store, or even calculate, rollover data for each communication channel, **wherein the rollover data includes an indication of a rollover relationship between the timer value and one of the policing parameters for each communication channel.** Instead, Welin calculates a deadline value for each packet corresponding to a time by which the packet must be serviced (Welin, paragraphs 0139, 0146, 0189). Welin does not disclose anything about storing rollover data for each communication channel. Instead, Welin calculates the deadline value for each received packet and sorts a queue of received packets according to the calculated deadline value for each packet. Thus, the packets can then be serviced from the queue in deadline order, thereby helping to ensure that packets with sooner deadlines are serviced before packets with later deadlines.

Additionally, Welin also fails to disclose that for each received incoming data cell, the cell processing unit is configured to assign an arrival time from the timer value **and compare the received incoming data cell's arrival time to the one or more policing parameters for the received incoming data cell's communication channel to determine if the received incoming data cell is conforming or non-conforming to a rate for the communication channel, as recited in claim 1.** The Examiner cites various passages of Welin that describe how a packet's deadline value is calculated, including

accounting for clock rollover. However, Welin does not teach comparing a packet's arrival time to policing parameters for the packet's communication channel to determine if the packet is conforming or non-conforming to a rate for the communication channel. Instead, as noted above, Welin calculates a deadline value for each received packet and uses those deadline values to sort and service the packets in order by their respective deadline values (Welin, paragraphs 0139, 0146, 0189 and 0551-0556).

**Furthermore, Welin does not disclose that the cell processing unit is configured to access the rollover data for the received incoming data cell's communication channel to account for the rollover relationship when comparing the arrival time to the one or more policing parameters, as recited in claim 1.** Nowhere, either in the Examiner's cited passages or elsewhere, does Welin mention accessing *rollover data* for a received packet's communication channel. Welin does not calculate or maintain rollover data for communication channels. Instead, Welin maintains time-stamp values of deadlines for each non-serviced packet (Welin, paragraphs 0080, 0139, 0146, 0189).

Thus, claim 1 is clearly not anticipated by the cited art and removal of the section 102(e) rejection is respectfully requested. Remarks similar to those above regarding claim 1 also apply to claim 17.

### **Section 103(a) Rejections:**

The Office Action rejected claims 2-4, 6-15 and 18-31 under 35 U.S.C. § 103(a) as being unpatentable over Welin in view of Fahmi et al. (U.S. Patent 5,668,797) (hereinafter "Fahmi"). Applicants respectfully traverse this rejection for at least the reasons presented above in regard to the independent claims.

Furthermore, regarding claim 2, Welin in view of Fahmi fails to teach or suggest that the rollover data is configured to indicate for each communication channel whether or not the timer value and theoretical arrival time are in the same rollover phase. The

Examiner admits that Welin does not teach or suggest rollover data configured to indicate for each communication channel whether or not the timer value and theoretical arrival time are in the same rollover phase. The Examiner relies up Fahmi and cites several passages including column 2, lines 62-67; column 3, lines 27-32, and 62-65; column 4, lines 1-5, 19-29 and 53-58. However, none of the Examiner's cited passages mentions rollover data configured to indicate for each communication channel whether or not the timer value and theoretical arrival time are in the same rollover phase. Instead, Fahmi teaches that the arrival time of a particular cell is compared to that cell's theoretical arrival time (TAT) to determine that cell's conformance. Fahmi clearly describes this process at column 1, lines 59-65 as "determining if a theoretical arrival time TAT is less than an arrival time for a ... cell." Additionally, one of the Examiner's cited portions (column 2, lines 62-67) also describes how Fahmi "tests a cell k arriving at time  $t_a(k)$  ... by comparing a theoretical arrival time, TAT, with the cell arrival time,  $t_a(k)$ ." The other passages cited by the Examiner describe the different ways taught by Fahmi for comparing the TAT and actual arrival time of individual cells of data.

Nowhere does Fahmi mention rollover data configured to indicate for each channel whether or not the timer value and the theoretical arrival time are in the same rollover phase. Instead, as noted above, Fahmi teaches comparing the theoretical and actual arrival times for individual cells to determine conformance and thus whether or not to apply policing to individual cells. Thus, Welin and Fahmi, both singly and in combination, fail to teach or suggest rollover data configured to indicate for each channel whether or not the timer value and the theoretical arrival time are in the same rollover phase. Therefore, the rejection of claim 2 is not supported by the cited art and removal thereof is respectfully requested. Remarks similar to those above regarding claim 2 also apply to claim 18.

Regarding claim 6, Welin in view of Fahmi does not teach or suggest a memory configured to store operations and maintenance data indicating connection availability information for each communication channel. The Examiner cites paragraphs 0318 and 0620 of Welin. However, neither of the cited passages have any relevance to storing

operations and maintenance data indicating connection availability information for each communication channel. Instead, paragraph 0318 of Welin describes decrementing deadlines every 10 ms as part of maintenance of queue 1431. Paragraph 0318 also describes how the DMA (direct memory access) hardware of Welin's system is programmed to continually put data from a T1 incoming line into buffers and to further take data from the buffers and place it on a T1 outgoing line. Paragraph 0620 describes replacing a speech codec in appliances and talking toys. None of the Examiner's cited portions have any relevance to storing operations and maintenance data indicating connection availability information for each communication channel. The Examiner does not rely upon Fahmi nor does Fahmi overcome any deficiency of Welin regarding claim 6. Thus, Welin and Fahmi, both singly and in combination fail to teach or suggest a memory configured to store operations and maintenance data indicating connection availability information for each communication channel.

Therefore, the rejection of claim 6 is not supported by the prior art and removal thereof is respectfully requested. Remarks similar to those above regarding claim 6 also apply to claim 22.

The Office Action rejected claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Welin and Fahmi in further view of the "Official Notice". Applicants respectfully traverse this rejection for at least the reasons given above in regard to claim 1.

Further regarding claim 5, Welin in view of Fahmi in further view of the Examiner's "Official Notice" does not teach or suggest a network device wherein a timer rollover phase indicator comprises a global register bit configured to be toggled each time the timer value rolls over. The Examiner cites paragraph 0417 of Welin. However, the Examiner's cited passage describes how Welin processes incoming voice data but does not mention anything regarding a time rollover phase indicator comprising a global register bit configured to be toggled each time the timer value rolls over. Instead, the cited passage describes using the decoding of voice data itself as a timer of the progress

of the decode process. For instance, Welin states, “[i]f the decoder process 2403 has to process 160 samples of data, the process itself every 20 samples or so may be arranged to open itself up to be interrupted” (Welin, paragraph 0417). Paragraph 0417 of Welin also describes using a register to store the progress of the decoder process by indicating the number of samples processed by the decoder process. However, Welin does not teach or suggest a timer rollover phase indicator comprising a global register bit configured to be toggled each time the timer value rolls over.

The Examiner also cites Fahmi and argues that Fahmi teaches *n* bits encoded to indicate whether the theoretical arrival time value for the communication channel is ahead, behind or in the same rollover phase as the timer value. However, the Examiner’s cited portion (column 4, lines 12-18) of Fahmi fail to mention any bits encoded to indicate whether a theoretical arrival time for a communication channel is ahead, behind or in the same rollover phase as the timer value. Instead, Fahmi teaches a time-of-arrival counter that provides *n*-bits of output that *indicate the actual arrival time* of a cell. Fahmi states “[t]he time of arrival on bus line 50 is applied to an input of processor 54 giving the processor 54 the time of arrival for each cell” (Fahmi, column 4, lines 16-18). Thus, Fahmi teaches the determination of the actual arrival time for each arriving cell of data. Fahmi is silent regarding any bits encoded to indicate whether a theoretical arrival time for a communication channel is ahead, behind or in the same rollover phase as the timer value.

Further regarding claim 5, the Examiner’s argument taking “Official Notice” that toggling register bits is well known has no relevance to the rejection of claim 5, since, as noted above, Welin and Fahmi fail to teach or suggest any value that indicates that the theoretical arrival time value for a communication channel is ahead, behind or in the same rollover phase as the timer value. Thus, whether or not toggling register bits is well known has no bearing on validity of the Examiner’s rejection of claim 5. In other words, the Examiner’s “Official Notice” regarding the toggling of register bits does not overcome the deficiencies of both Welin and Fahmi (both single and in combination) regarding indicating whether the theoretical arrival time value for the communication

channel is ahead, behind or in the same rollover phase as the timer value. Furthermore, although it may be well known to toggle register bits for other purposes in the prior art, Applicants traverse that it is well known in a network device for a timer rollover phase indicator to comprise a global register bit configured to be toggled each time the timer value rolls over.

Thus, the rejection of claim 5 is clearly not supported by either the prior art or the Examiner's "Official Notice" and removal of the rejection is respectfully requested.

Applicants also assert that numerous other ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time. Applicants reserve the right to later present additional arguments if necessary.



## CONCLUSION

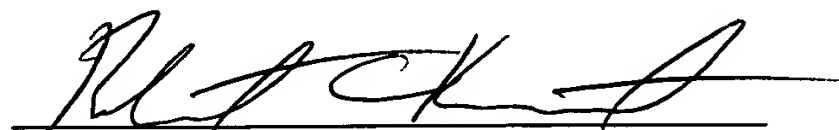
Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicants hereby petition for such extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5694-00200/RCK.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☐ Petition for Extension of Time
- ☐ Notice of Change of Address
- ☐ Fee Authorization Form authorizing a deposit account debit in the amount of \$  
for fees (        ).
- ☐ Other:

Respectfully submitted,



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